



# OUTOTEC CONNECTED SERVICES

Outotec® connected services enhances traditional remote services by means of an online data connection to selected assets. This enables online monitoring and data analytics with enhanced troubleshooting coupled with our expert reporting. Connected troubleshooting, via our connected services, reduces the time required to resolve your equipment related issues, increasing equipment availability and reliability.

Each system is tailored according to your equipment and site requirements, providing real-time data visible on our proprietary dashboards with the ability for users to customize and define data graphs.

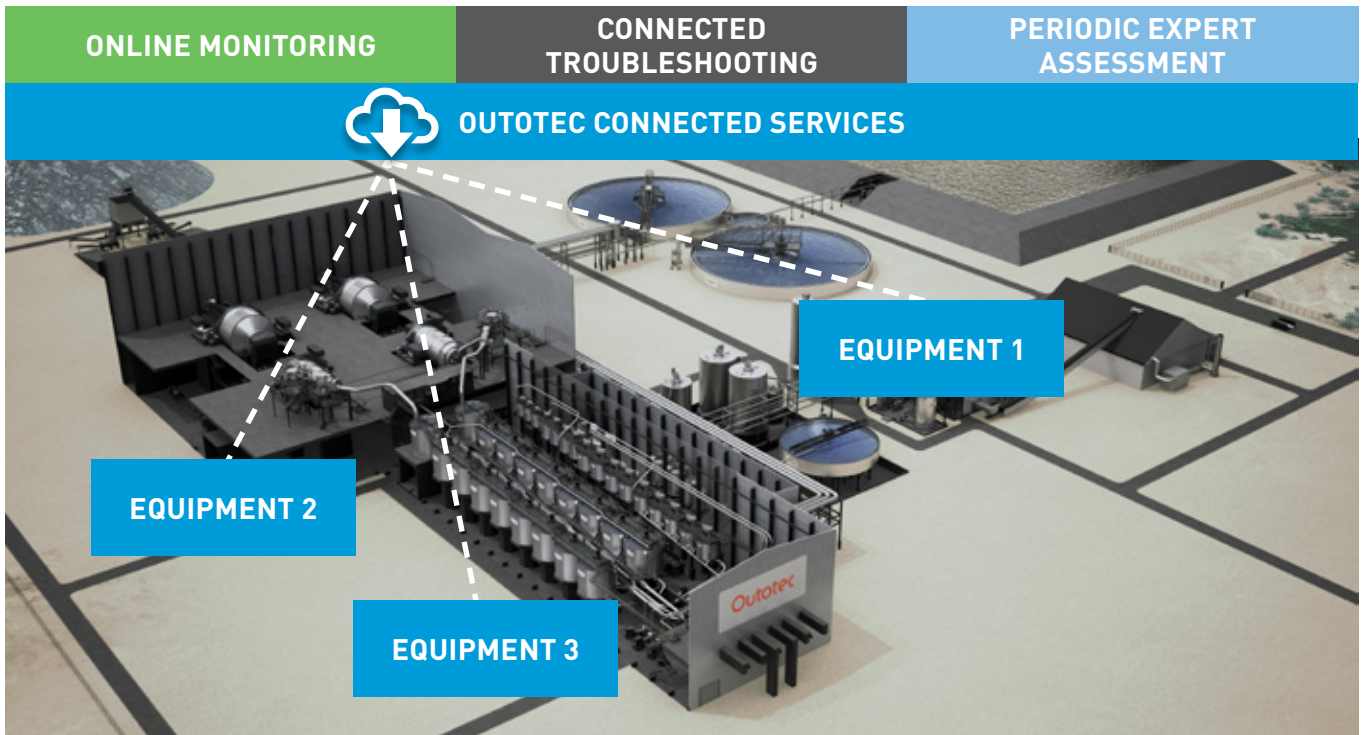
Depending on the level of connected services selected, we also offer periodic expert assessment services that includes a detailed report and action plan based on historical and trending data to support proactive maintenance planning.

## BENEFITS

- Prompt resolution of issues via connected troubleshooting
- Accurate response to troubleshooting issues
- Enhanced operational decision-making
- Improved equipment availability and reliability
- Reduced emergency and/or scheduled site visits

**Connected services**

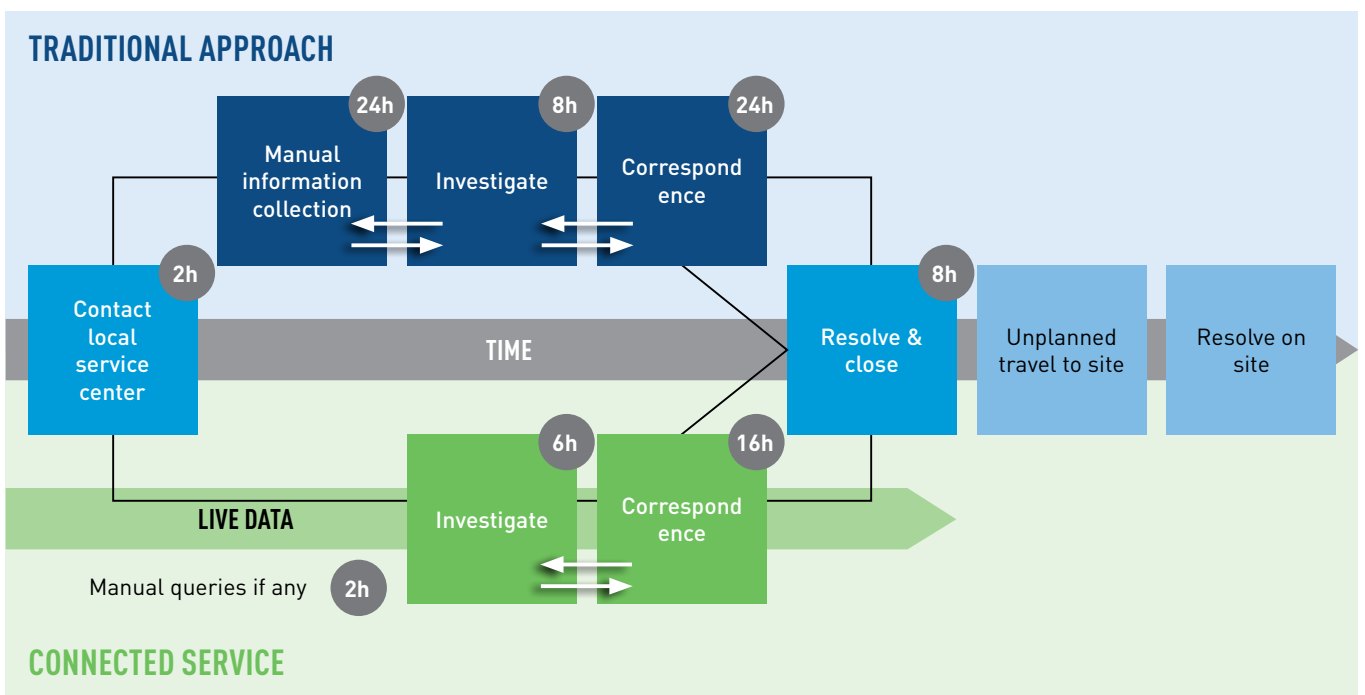
Connected service is designed to help customers improve their operations and maintenance through online and remote support. This is enabled by our in-house developed platform and contains three elements: online monitoring, connected troubleshooting and periodic expert assessment.

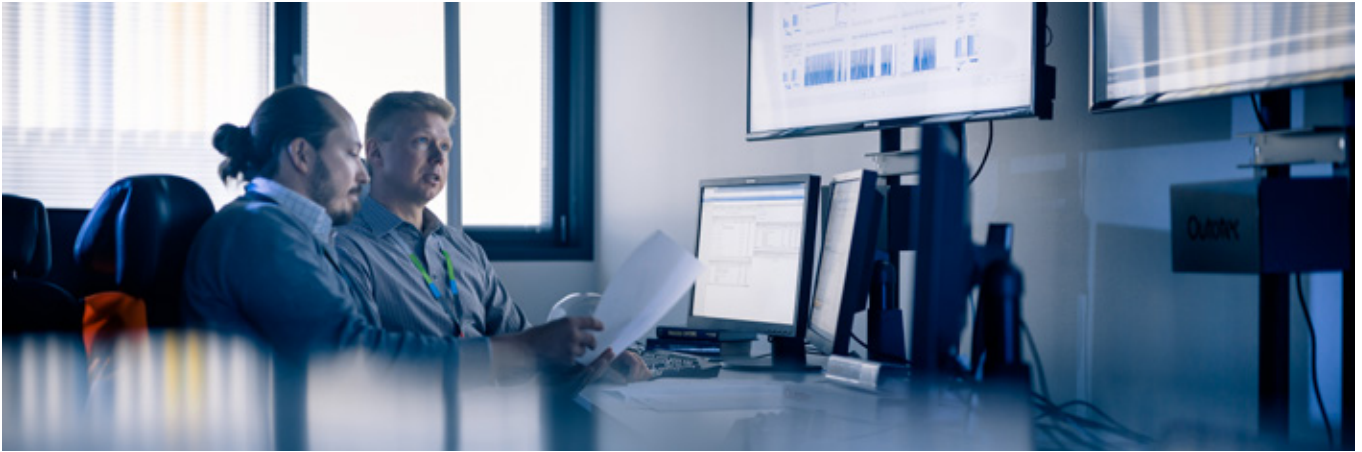


Connected services for various equipment

**Faster, efficient resolution of issues**

Our Connected Services data collection process can be fully automated in most cases and virtually eliminates manual queries. Investigation is considerably faster using Asset Analytics; and correspondence time is vastly reduced, often travel to site is not required resulting in a speedy resolution.





### Online monitoring

This system is configured according to your equipment, providing real-time information for accurate decision making and proactive maintenance planning. Through continuous live views and performance tracking, you can track and monitor performance of your equipment and processes online.

HOW IT WORKS	FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>• Data from your equipment is available live and online to you and Outotec expert network</li> <li>• Equipment alarms and set points are mirrored to Connected Service</li> <li>• Additional monitoring points can be added to the trends               <ul style="list-style-type: none"> <li>• Low Warning and Low Alarm</li> <li>• High Warning and High Alarm</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Your equipment along with any additional data shared under the agreement will be reviewed against agreed KPIs and design values</li> <li>• Predictive maintenance tools to monitor equipment and processes</li> <li>• Continuous visibility of equipment and process data (if provided), through Asset Analytics via Outotec Pretium Portal</li> <li>• Customised, automated reports sent to nominated site personnel</li> </ul>	<ul style="list-style-type: none"> <li>• Enhances operational decision-making</li> <li>• Faster identification and planning for future maintenance tasks</li> <li>• Reduces skill shortage-related risks in remote locations</li> <li>• Reduced emergency site visits</li> <li>• Detection and proactive alerts of potential issues</li> </ul>

### Connected troubleshooting

Connected troubleshooting utilizes your equipment and process data in order to remotely trace and promptly resolve faults in your equipment or operation. It also assist in a faster production recovery and increases equipment availability and reliability.

HOW IT WORKS	FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>• A secure data collection solution relays necessary data from equipment to Outotec cloud</li> <li>• Data from your equipment is available live and online to you and Outotec expert network</li> <li>• Outotec ticketing system manages and tracks requests for support</li> </ul>	<ul style="list-style-type: none"> <li>• Secure connection and storage of data</li> <li>• Troubleshooting for equipment, operations and processes</li> <li>• Service request user interface via Outotec Pretium Portal</li> <li>• Outotec expert network has immediate access to current and historical data</li> <li>• Access to expert support under contract arrangement</li> <li>• Tool to assist root causes identification</li> </ul>	<ul style="list-style-type: none"> <li>• Shorter time to resolve ticketed issues</li> <li>• Accurately respond to ticketed issues</li> <li>• Enhanced operational decision-making</li> <li>• Improved equipment availability and reliability</li> <li>• Reduced emergency site visits</li> </ul>

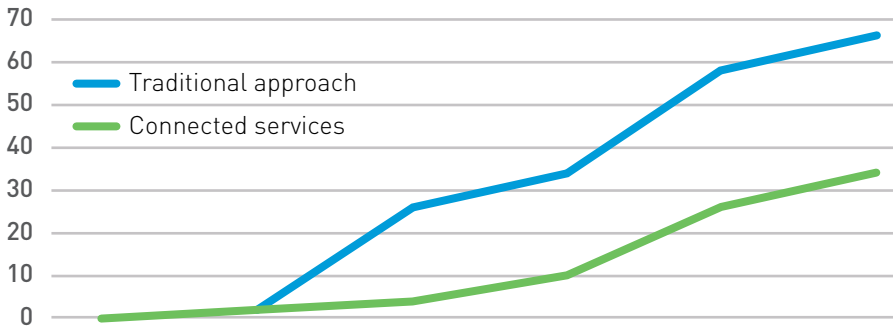
### Periodic expert assessment

This Optional service provides continuous improvement opportunities and assists in development of preventative maintenance (PM) and reliability centered maintenance (RCM) plans, In turn this will maximize efficiency and minimize downtime by preventing problems before they occur.

HOW IT WORKS	FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>On agreed period, data analyst deep dive into collected data</li> <li>Deviations are noted and correlating data collected</li> <li>Technical and Process experts review data</li> <li>Report delivered onsite or remotely</li> </ul>	<ul style="list-style-type: none"> <li>Benchmark data against design specifications</li> <li>Deviation, alarm and run-time analysis</li> <li>Analysis of equipment and process performance</li> <li>Continuous improvement recommendations to operation and maintenance activities</li> <li>Knowledge sharing and transfer to the customer site personnel</li> <li>Action log and improvement suggestions</li> </ul>	<ul style="list-style-type: none"> <li>Reduces skill shortage-related risks in remote locations</li> <li>Continuous improvement opportunities identified and planned</li> <li>Improved equipment availability and reliability</li> </ul>

### TIME COMPARISON TO RESOLVE ISSUES

	ISSUE OCCURED	RESOLUTION BEGINS	DATA COLLECTION	INVESTIGATION	CORRESPONDENCE	TOTAL TIME TO RESOLUTION
<b>Traditional approach</b>	0	2	26	34	58	66
<b>Connected services</b>	0	2	4	10	26	34



### Scope

- Hardware, installation and commissioning support
- Software configuration
- Initial customer meeting
- Annual customer workshop
- Priority troubleshooting ticketing
- Asset Analytics user interface
- Automated reporting
- Periodic expert assessment (optional)
- Preventative mechanical inspection (optional)

Outotec develops leading technologies and services for the sustainable use of Earth's natural resources. Our 4,000 top experts are driven by each customer's unique challenges across the world. Outotec's comprehensive offering creates the best value for our customers in the mining, metal, and chemical industries. Outotec had sales of approximately EUR 1.2 billion in 2019, and its shares are listed on NASDAQ Helsinki.

[www.outotec.com](http://www.outotec.com)